

with both plants in several localities; in fact, both appear to be plentiful in situations suitable for them.

I am, yours, &c.,

September 1, 1845.

THOMAS MOORE.

P.S. Mr. Babington has just favoured me with the following specific characters for these two plants:—

*G. fluitans* (R. Br.); panicle subsecund, slightly branched, very long; branches nearly simple, roughish, divaricated whilst in flower; spikelets linear, of 7—12 flowers; outer pale nearly thrice as long as broad, blunt; *anthers about five times as long as broad (purple)*; sheaths compressed. Leaves pale green, acute. Ligule elongate. Outer pale blunt, with a triangular central point. Dry anthers pale yellow.—*Poa fluitans*, var. *subspicata*, Parnell's British Grasses, pl. 95. This plant is considered as the true *Festuca fluitans* of Linnæus by the Swedish botanists; it was originally published under that name in 'Linn. Fl. Suec.'

*G. plicata* (Fries); panicle compound; branches compound, nearly smooth, divaricated whilst in flower; spikelets linear, of 7—20 flowers; outer pale oval, twice as long as broad; apex obtuse-angled, with three nearly equal teeth; *anthers thrice as long as broad (yellow)*; sheaths compressed. Resembling *G. fluitans*. Ligule shorter. Dry anthers fuscous. Leaves glaucous, bluntish.—*G. plicata*, Fries, Nov. Fl. Suec. Mant. ii. 6. *F. fluitans*, Eng. Bot. pl. 1520. *Poa fluitans*, Parn. pl. 45 (not good). Mr. Babington has seen authentic specimens of this plant, from Fries himself, which agree with that found commonly in Britain.

XXVI.—*Descriptions of new or imperfectly described Diurnal Lepidoptera*. By EDWARD DOUBLEDAY, Esq., Assistant in the Zoological Department of the British Museum, F.L.S. &c.

[Continued from p. 182.]

Fam. NYMPHALIDÆ.

Genus DIADEMA, *Boisd.*

*Diadema Nama*, Boisd. MSS. D. alis anticis sinuatis nigris, posticis castaneis, omnibus albo lineatis maculatisque. Exp. alar. 3 unc. 6 lin. vel 90 millim.

*Hab.* Sylhet, &c.

Anterior wings with the outer margin sinuate, slightly glossed with purplish, especially towards the apex; with numerous semi-transparent markings of a bluish white, viz. a longitudinal vitta in the cell at the base, followed by two spots, of which the outer one is triangular; above these three indistinct spots, the middle one sometimes wanting; between the lower median nervule and

the radial nervure two vittæ united at the base, the upper one followed by a round spot; above these between the nervules five vittæ, of which the one nearest the costa is pointed, the others bifid externally, each vitta followed by three spots, of which the lower are somewhat lunulate, the upper ones more rounded; four rounded spots near the apex, two near the anal angle. The inner margin is glaucous, the apex tinged with brown. Posterior wings castaneous, darker in the females than in the males, with seven whitish subdiaphanous vittæ placed between the nervules, all, except the innermost, followed by a round white dot, beyond which the ground-colour of the wings is slightly darker; towards the outer margin a series of indistinct whitish spots, sometimes nearly obsolete. Cilia of all the wings spotted with white. Below, the anterior wings are black with strong blue reflections, the apex broadly chestnut, slightly bronzed towards the disc; the markings as above but clearer, with two additional spots on the costa near the base. Posterior wings paler than above, the white portions more or less irrorated with chestnut scales; on the margin a distinct series of whitish lunules.

Head, thorax and abdomen black, clothed with gray hairs; head above and thorax below spotted with white; abdomen below gray; palpi black, spotted with white; antennæ black.

In the cabinets of the British Museum, &c.

This species, which much resembles *Pap. Agestor* and *Danaïs Tytia*, has the cells of all the wings open. The genus *Diadema* as it now stands requires subdivision; the neuration I believe will be of great service for this purpose.

*D. Lisarda.* D. alis omnibus fuscis, vittis discoidalibus albidis, seriebus duabus submarginalibus punctorum albidorum. Exp. alar. 5 unc. 6 lin. vel 140 millim.

*Hab.* Sylhet.

Anterior wings fuscous with whitish markings, viz. an elongate spot at the base and extremity of the discoidal cell, an oval one near the costa towards the middle, a series of vittæ between the nervules, of which the first and third from the costa are short and narrow, the second also slender but longer, the fourth long, the fifth and sixth progressively shorter, well-defined towards the base, less so externally, the seventh broad, short, the eighth broad, longer than the seventh, the ninth long, commencing near the base, the tenth occupying the inner margin from the base nearly to the anal angle; near the margin between the nervules a series of seven more or less rounded spots, of which the one nearest the anal angle is geminate; this series, preceded by another of six spots, of which all except the first are connected with the vittæ by indistinct prolongations. Posterior wings with the base and abdominal margin whitish, the nervures broadly brown, a broad vitta

near the anterior margin, five vittæ around the cell, a series of eight round spots near the margin, and four between these and the terminations of the vittæ, all whitish. Cilia fuscous, spotted with white. Below, anterior wings with the disc fuscous, the apex light brown, the markings nearly as above but more defined; posterior wings brown, the discoidal cell and abdominal fold whitish, the vittæ nearly as above but much less distinct; the vitta between the first and second discoidal nervules terminated by a rounded spot; the inner row of whitish dots very small, the outer much larger.

Head and thorax black, spotted with white, the latter gray posteriorly. Abdomen gray at the sides, fuscous above and below.

This insect in form and in some respects in colouring resembles *P. dissimilis*. It has the cell of both wings closed. Of three specimens in the Museum collection, no one has the antennæ perfect; a fragment on one specimen is black.

#### Fam. MORPHIDÆ.

#### Genus THAUMANTIS.

*Th. Diores.* Th. alis omnibus nigro-fuscis supra maculis magnis disci, perpulchre cæruleis, nitidis; subtus strigis disci fuscis marginisque externi albidis; posticis ocellis duobus. Exp. alar. 3 unc. 9 lin. vel 95 millim.

*Hab.* Sylhet.

Above, all the wings fuscous black, the anterior with a broad band-like spot, commencing near the costa beyond the middle, and extending towards the anal as far as the lowest median nervule. This spot is of a brilliant metallic, changeable blue, much paler and less changeable externally. On the posterior wings is a large patch of the same rich blue, paler in the centre, occupying the whole disc of the wing. Below, all the wings less black than above, the outer margin paler; this pale portion bounded internally by an undulated pale or whitish striga, becoming brown towards its termination at the anal angle of the posterior wings: between this and the margin is another less distinct similar striga. The anterior wings have besides two fuscous strigæ in the discoidal cell inclosing a paler space, and a third striga commencing on the costa beyond the cell and extending obliquely nearly to the anal angle, slightly bordered internally with whitish. The posterior wings have a transverse fuscous striga near the base, and another commencing near the middle of the costa and reaching nearly to the anal angle. Just within the pale submarginal striga near the costa is a round yellowish spot, inclosing a brown one placed towards its outer margin, and between the first and second median nervule a round black spot sprinkled with blue atoms anteriorly, and surrounded by a yel-

lowish and a black iris. Anal angle with a geminate spot composed of black and white atoms.

Head, thorax and abdomen fuscous.

In the collection of the British Museum, &c.

This species seems to be the representative of *Th. Odana* in Northern India, and does not seem to be rare. The blue is of a peculiar brilliancy.

Fam. PAPILIONIDÆ.

Genus PAPILIO.

*P. Evan.* P. alis anticis elongatis falcatis acuminatis, posticis elongatis, dentatis, caudatis, omnibus luteo-rufis, margine externo late fusco-brunneo, maculis lunulisque luteo-rufis. Exp. alar. 5 unc. 1 lin. vel 130 millim.

Anterior wings elongate, falcate, acuminate, of bright light fulvous, the base and anterior portion of the costa more obscure, the costa from the middle to the apex and the exterior margin deep brown, with fulvous spots at the apex and anal angle; a sigmoid spot in the cell and a larger spot on the discocellular nervure of the same colour as the margin. Posterior wings elongate, dentate, caudate, light fulvous at the base, deep fuscous brown beyond; a series of five lunulate light fulvous spots near the outer margin, preceded by three spots and a striga of a deeper fulvous near the anal angle, the tail fulvous brown, paler towards the apex; cilia marked with pale fulvous near the outer angle. Below, the wings a bright yellow-ochre colour, the anterior with several irregular spots in the cell, a larger one on the discoidal, three on the costa near the apex, a fourth below the last of these, followed by a zigzag line, and the outer margin bright brown: the margin is marked with lighter-coloured clouds, and preceded by some indistinct spots on the nervures more or less confounded with it. The posterior wings have four brown spots at the base, a broad band beyond the middle of deep rich brown, extending along the abdominal margin to the tails, which are brown. This band is marked anteriorly between the nervules with silvery atoms, those nearest the inner margin forming a silvery lunule. Beyond the band the wings are of the same colour as at the base, with four sigmoid spots, a narrow line on the margin itself, and the cilia at the ends of the nervules rich brown.

Head and antennæ brown.

Thorax bright shining black, covered at the sides with brown hair and scales, apparently naturally almost bare on the disc.

Abdomen very pointed, luteo-fulvous.

This beautiful species, figured on the second plate of my *Genera of Diurnal Lepidoptera*, is closely allied to *P. Payeni* of Van

der Hoeven ; but a comparison of the two figures will at once show the difference, *P. Payeni* being much smaller and not having the posterior wings dentate, and also wanting the broad deep brown band below.

[To be continued.]

XXVII.—*On the Surface of the Stem and Contents of the Medullary Cells of Nuphar lutea (Smith).* By JULIUS MÜNTER\*.

ALTHOUGH the internal structure of the submersed stems of *Nuphar lutea*, Sm., is but little adapted for indicating the dicotyledonous nature of the *Nymphæaceæ*, still in other respects it possesses so much interest, that it appears well-worthy of a special notice in these pages. The stem of the yellow water-lily is found in tolerably deep stagnant waters, lakes and large rivers ; its length is 5 feet or more, and its diameter from  $2\frac{1}{2}$  to 3 inches ; it is sometimes simple and sometimes branched, and sends off from its summit to the surface of the water its floating leaves and beautiful flowers on smooth footstalks, which are often 6 to 8 inches long. The stem is sometimes brought to the surface of the water or the banks either by the net of the fisherman or the drying up of the water, and we are then enabled to examine it more accurately.

The entire surface of the stem is coated with elastic leaf-sears directed obliquely from above downwards, as in the stems of the *Cycadeæ*, and the torn bundles of woody fibre are indicated on these sears. We do not, however, usually find any buds in the angles of the leaf-sears, and in such a case not even the slightest trace of one. But where the buds situated in the angles are developed, they form a branch directed almost at right angles to the axis, which soon acquires the thickness of the stem. A little below the leaf-stalk sears, which are arranged circularly around the stem, we find single or grouped foveolæ of the size of a pea, of a more or less rounded form, which are either arranged beneath these leaf-sears around the stem, or are only visible on those parts of its surface directed towards the soil. When these foveolæ are grouped, three, five or six together, the lower ones are usually larger than the upper, and on minutely examining them we find a remarkable resemblance of each foveole to the cavity of the human acetabulum. In the former a circular protuberance (limbus) surrounds the foveoles, as in the latter, but this has in addition a notch at its lower part ; we then find on the inner surface of the pit a ring running parallel with the limb, *i. e.* con-

\* Translated from the Botanische Zeitung, Aug. 1845.